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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

IM52/0815

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ART UNIT

PAPER NUMBER

1714

DATE MAILED:

08/15/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/641,149

Applicant(s)

Weinberg et al.

Examiner

Callie Shosho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above, claim(s) 16-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claims 1-30 are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 20) ☐ Other: _____

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DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-15, drawn to composition and article, classified in class 524, subclass 322.
 - II. Claims 16-30, drawn to process of forming composition, classified in class 523, subclass 513.
2. The inventions are distinct, each from the other because:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the product as claimed can be made by another and materially different process such as combining hydrocarbon polymer and filler, heating to form a molten composition, adding the organic acid, salt thereof, or mixture thereof to the molten composition, mixing, and then cooling the molten composition or, alternatively, dry blending all the ingredients followed by feeding to extruder.

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3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and/or their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with William Cotreau on 8/7/01 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-30 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).
6. Applicants are advised that since Group I, drawn to the composition and article, has been elected, and in the event that the composition claims are subsequently found allowable, and further, the withdrawn process claims of Group II are amended to depend from or otherwise

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include all the limitations of the allowable composition claims, then the process claims of Group II will be rejoined with the composition of Group I. See MPEP 821.04.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9, which depends on claim 1, recites the limitation "the organic filler" in line 1. There is insufficient antecedent basis for this limitation in the claim given that there is no previous recitation of an organic filler in claim 9 or in claim 1. Further, claim 1 recites "a mineral filler" not an "organic filler".

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Moss (U.S. 4,698,372).

Moss disclose a composition comprising thermoplastic polymer such as polyamide, 20-30 vol% filler such as calcium carbonate which has aspect ratio of less than 2 and average equivalent spherical diameter of 0.1-5 μm , and stearic acid. It is further disclosed that the composition is used to form shaped articles such as films or sheets (col.3, line 64, col.4, lines 61-62, col.5, lines 21-23, 33-34, and 46, col.6, lines 26-38, and col.8, lines 37-39). It is disclosed that the stearic acid is present in amounts of 1×10^{-5} to 5×10^{-5} mol/m² of filler surface area. From these concentrations and using the equations in col.6, lines 52-66 of Moss, it is calculated, using average equivalent spherical diameter of filler of for instance, 1 μm , that the stearic acid is present in amounts of approximately 0.6-3% based on the weight of calcium carbonate.

In light of the above, it is clear that Moss anticipates the present claims.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekutowski (U.S. 4,740,538) in view of Moss (U.S. 4,698,372).

Sekutowski discloses a composition comprising polymer including polyethylene terephthalate, polybutylene terephthalate, and polyamide such as nylon 66, 2-55 vol% filler such

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as calcium carbonate which has average equivalent spherical diameter less than 1 μm , and 0.1-5 wt.% based on amount of calcium carbonate of saturated organic acid such as stearic acid and palmitic acid. It is further disclosed that the composition is used to form shaped articles (col.1, lines 5-10, col.2, line 67-col.3, line 1, col.3, lines 6-10, 32, and 48, col.4, lines 4-5, col.5, lines 6 and 38-42, and col.7, line 14).

The difference between Sekutowski and the present claimed invention is the requirement in the claims of the aspect ratio of the calcium carbonate filler.

Moss, which is drawn to resin composition, disclose use of calcium carbonate filler with aspect ratio less than 2 in order to impart suitable reinforcing effects to the composition (col. 5, lines 21-23).

In light of the motivation for using calcium carbonate with specific aspect ratio disclosed by Moss as described above, it therefore would have been obvious to one of ordinary skill in the art to use such calcium carbonate in the composition of Sekutowski in order to produce a composition with good reinforcement properties, and thereby arrive at the claimed invention.

14. Claims 1-6, 9-12, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luders et al. (U.S. 4,456,710) in view of Moss (U.S. 4,698,372).

Luders et al. disclose composition comprising polymer including oxymethylene homopolymer and oxymethylene copolymer, filler such as calcium carbonate which has particle size of 0.1-50 μm , and salt of saturated organic acid such as calcium stearate. It is disclosed that

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the composition comprises 20-90% polymer, 10-80% calcium carbonate, and 0.1-5% salt of saturated organic acid from which it is calculated that the salt of organic acid is present in an amount of approximately 0.12 to 50 wt.% based on the amount of filler. It is further disclosed that the composition is used to form shaped articles (col.1, lines 39-41 and 51-54, col.4, lines 6-7 and 12, and col.7, lines 14 and 21-23).

The difference between Luders et al. and the present claimed invention is the requirement in the claims of (a) aspect ratio of the calcium carbonate filler and (b) vol.% of calcium carbonate.

With respect to difference (a), Moss, which is drawn to resin composition, disclose use of calcium carbonate filler with aspect ratio less than 2 in order to impart suitable reinforcing effects to the composition (col. 5, lines 21-23).

In light of the motivation for using calcium carbonate with specific aspect ratio disclosed by Moss as described above, it therefore would have been obvious to one of ordinary skill in the art to use such calcium carbonate in the composition of Luders et al. in order to produce a composition with good reinforcement properties, and thereby arrive at the claimed invention.

With respect to difference (b), Luders et al. disclose the amount of calcium carbonate present in the composition in wt.% not vol.% as presently claimed.

However, given that broad range of calcium carbonate disclosed by Luders et al., i.e. 10-80%, it would have been natural for one of ordinary skill in the art to infer, absent evidence to the contrary, that this broad amount of calcium carbonate in weight % would overlap the presently

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claimed amount in volume %, and thus, one of ordinary skill in the art would have arrived at the claimed invention.

15. Claims 1-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi et al. (U.S. 5,281,379) in view of Moss (U.S. 4,698,372) and Sekutowski (U.S. 4,740,538).

Noguchi et al. disclose composition comprising polymer including polyethylene terephthalate, polybutylene terephthalate, and polyamide such as nylon 6 and nylon 66, 5-40 vol% filler such as calcium carbonate which has particle size less than 1 μm , and saturated organic acid such as stearic acid. It is further disclosed that the composition is used to form shaped articles (col.2, lines 46-51, 56-59, and 65-66, col.3, lines 8-13, col.6, lines 34-41, and col.13, lines 46-47).

The difference between Noguchi et al. and the present claimed invention is the requirement in the claims of (a) aspect ratio of calcium carbonate filler and (b) amount of stearic acid.

With respect to difference (a), Moss, which is drawn to resin composition, disclose use of calcium carbonate filler with aspect ratio less than 2 in order to impart suitable reinforcing effects to the composition (col. 5, lines 21-23).

With respect to difference (b), Sekutowski, which is drawn to polyamide or polyester composition, disclose use of 0.1-5 wt% based on amount of calcium carbonate filler of saturated

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organic acid such as stearic acid in order to increase the impact strength of the composition (col.2, line 67-col.3, line 1, col.6, line 63-col.7, line 7, and col.7, line 14).

In light of the motivation for using calcium carbonate with specific aspect ratio and specific amount of stearic acid disclosed by Moss and Sekutowski respectively as described above, it therefore would have been obvious to one of ordinary skill in the art to use such calcium carbonate and stearic acid in the composition of Noguchi et al. in order to produce a composition with good reinforcement properties and increased impact strength, and thereby arrive at the claimed invention.

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sanada et al. (U.S. 5,886,094) disclose composition comprising polyamide, calcium carbonate with aspect ratio of not less than 5, and zinc stearate, however, there is no disclosure of the amount of calcium carbonate present in vol.% or the average equivalent spherical diameter of the calcium carbonate as presently claimed.

Kubota (U.S. 3,969,311) disclose composition comprising polyester, zinc stearate, and calcium carbonate, however, there is no disclosure of the aspect ratio or the average equivalent spherical diameter of the calcium carbonate as presently claimed.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie Shosho whose telephone number is (703) 305-0208. The examiner can normally be reached on Mondays-Thursdays from 7:00 am to 4:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.\

CS

Callie Shosho
8/10/01

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